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Original Communications.

ARTICLE I.

CASE OF LYMPHATIC TUMOR;

VARIX OF THE LYMPHATIC TRUNK.

BY DANIEL BRAINARD, M. D.,

Professor of Surgery in Rush Medical College, Surgeon of the U. S. Marine Hospital, of the City Hospital, Chicago, etc.

H. W. Johnson, of Chemung, Wisconsin, a physician, aged 48 years, applied to me February 20th, 1847, on account of a tumor situated on the right side of the neck.

This tumor was as large as the "double fists," situated immediately above the clavicle, behind the sterno-mastoid muscle. (*See fig.*) The external jugular vein passed over it. It was perfectly fluctuating, rather soft, free from pain, tenderness or redness. On applying a light, it was seen to be translucent, like a hydrocele. The patient considered himself to be in pretty sound health, although of a sallow complexion.

History.—It had originated, without any known cause, some six or eight years previously, and increased very slowly until within a year, during which it has grown more rapidly.

Treatment.—I advised, for the purpose of palliation and for testing the character of the tumor, the use of the exploring trochar. It was accordingly punctured with this instrument, and about ten ounces of yellow fluid drawn off, which only about half emptied it. This was of a straw color, resembling exactly in appearance the fluid drawn from a hydrocele, some of which happened to be standing in my room at the time, but on dipping the finger into it, it was felt to have more consistency.

Microscopic Appearance.—On examination with the microscope, numerous lymph corpuscles were seen in both the coagulum and the serum. The coagulum was composed of fibrin and corpuscles.

Chemical Properties.—Considerable coagulum formed in the lymph on standing. The serous part coagulated very completely by heat. The coagulum presented an arborescent appearance.

Berard states that the solid part of the clot of lymph assumes a purple hue on the contact of carbonic acid, and a bright red on the contact of oxygen.*

This was found to be the case with regard to oxygen when applied to the fibrin, but that used for carbonic acid was unfortunately so much dried as to give no result.

What was the nature of this swelling? Was it a rupture or dilatation of a lymphatic vessel, or a peculiar form of abscess, or a serous cyst?

Chelius quotes Bieul, Rust and others in favor the opinion that it is an extravasation of lymph from rupture of a vessel. On the other hand he quotes Walther in favor of the view that it is an abscess, (lymph abscess.) He also refers to the case of Nasse, in which a swelling having occurred on the upper part of the thigh and been opened, there persisted a discharge of lymph which was with difficulty suppressed. Vol. 1, p. 60.

* Cours de Physiologie, vol. 2, p. 778.

Notwithstanding this and other cases of so-called fistular openings of lymphatic vessels, doubts of the nature of such cases may still be entertained.

The case reported by Mr. South, in his notes to Chelius' Surgery, is quite uncertain in its character, for want of a suitable examination of the fluid, the only details given concerning it, being that it was "very similar to synovia."

We may, I think, affirm with safety, that the tumor above described is most unlike an abscess in its history, structure and contents, and in the result of treatment. Nor can the peculiar character of inflammation, when occurring in the lymphatic system, be invoked to account for these peculiarities. The diseases of the lymphatic system, with the exception of varix of the trunks, are well understood. Inflammation, whether occurring in the trunks or ganglions has been studied with great attention since the latter part of the last century. The serous pus formed in cold or scrofulous abscesses, is the well-known result of certain grades of inflammation in the tissues. But nothing approximating to the character of lymph has been found in such abscesses. The conclusion seems, then, irresistible, that this tumor was the result of a rupture or dilatation of a lymphatic vessel.

If I were to adopt a different conclusion, the only alternative would be to suppose that inflammatory lymph may remain indefinitely in the tissues, without degenerating, becoming organized, being absorbed, or suffering any change whatever.

Is the tumor the result of a rupture or dilatation of the lymphatic vessel? No data are furnished by which to resolve this question. On the one hand we might cite the case of aneurism, when there is a rupture of some of the coats of an artery, and on the other, that of varix, where there is dilatation of the covering of the vein. It seems, however, that the probabilities and analogies are altogether in favor of dilatation.

Serous cysts of the neck are not by any means rare, and their treatment by the injection of iodine has been resorted to with success. The reactions of the fibrinous parts of the contents of this tumor appear to me sufficiently conclusive as to

its character. If it was a lymphatic tumor, the treatment was, so far as I am aware, new.

April 21, 1857.—Patient returned. Tumor nearly as large as before.

Tapped with a common hydrocele trochar, and drew off 12 ounces of fluid, which completely emptied it. Injected a small quantity of solution composed of Iodine one scruple, Iodide of Potassium one drachm, to one ounce of water. A small quantity remained. This produced an acute pain, shooting down into the shoulder, and up into the neck.

The fluid in this case was more turbid than at the former puncture; coagulated, but the coagulum did not separate as before, but resembled jelly.

The following note from the patient, written eighteen months after the operation, will sufficiently show the result:

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Howard, McHenry Co., Ill., Dec. 27, 1858.

Dear Sir:

Your kind letter of Dec. 3d has just arrived, inquiring as to the result of your injection of Iodine into the sack of a tumor on the shoulder. I am very happy to inform you it succeeded admirably. In about sixty days, it contracted the sac down to the size of a penny; in from three to four months the last vestige of it disappeared, without further treatment, and it is at this time perfectly well and smooth as the other side. It remained somewhat sore and numb for five or six months from the time of operation.

And in conclusion, allow me to express my heartfelt satisfaction for your kindness, as well as the correctness of your diagnosis, and the ability and care with which you affected the cure; for it, as to its results, had become the source of a good deal of annoyance to me. My general health is as good as it ever was. One thing I forgot to mention to you at the time, not thinking it connected with the tumor, viz., bloody urine for two years previous to the operation, that ceased altogether as the tumor disappeared. Could it have been the result of, or in any way connected with, the growth of the tumor?

Any further information that you may require, will be cordially responded to. Three months from the time you operated, I wrote a full account of it, but I suppose you never received it, from the fact I never heard from you till now. Drop me a line as soon as possible, so I shall know you have received this.

H. W. JOHNSON.

D. BRAINARD, M. D.

ARTICLE 2.

DIPHTHERIA.

BY W. GODFREY DYAS, M. D., CHICAGO.

[Continued from Page 678 Vol. 2.]

Perhaps no part of France suffered to a greater extent from Diphtheria, than Boulogne. Here a large proportion of the inhabitants is British, and from among these the pestilence unsparingly selected its victims. Within two years—from 1855 to 1857—366 persons succumbed to its virulence; and there, as elsewhere, the same insidious approach—the same pseudo-membranous patch in the fauces—and the same prostration, were its attendants. As in Paris, so in Boulogne, the extension of the false membrane was rather towards the nares than the larynx; but the onset, in many instances, was more frequently marked by nausea—a symptom that soon came to have a fearful significance. This nausea was succeeded by vomiting, on which supervened other well-known signs, which too truly indicated that the system was already unequally committed to a struggle with an enemy that seldom failed to come off victorious, and to oppose which, the resources of art had too often proved unavailing. Occasionally, the disease set in with convulsions, which indicated peculiar danger. When the membranous exudation rapidly extended to the posterior nares, the prognosis in every such case was unfavorable. Meningitis and Gastro-Enteritis were no uncommon compli-

cations. Often the enlargement of the cervical and submaxillary glands preceded the deposition of false membrane. It is remarkable that in no two places was there a perfect resemblance either in the grouping of the symptoms—in their order of succession—or in the degree of their individual development. Still, in all, the essential features of the epidemic were alike. In Avignon, in 1853, out of a force of 1686 soldiers, it attacked 195. It exhibited a decided predilection for children, 18 per cent. of whom were seized; whilst of adults, but four per cent. were sufferers. Here the almost universally fatal symptom was a sense of constriction in the larynx. M. Lespiau (Relation d'une Epidemic Diptheritique qui a sevi sur le 75e de ligne) observed that but one of those who had this symptom recovered. In Nievere the disease did not attack the larynx. In the Haute Marne, the nasal fossa were the principal seat of its local manifestation; and we are told by Jobert that the epistaxis consequent on this, materially contributed to the fatal issue. On the other hand, in the neighborhood of the Pyrenees, the disease, as in Tours in 1818, chiefly destroyed by its extension to the larynx. How slowly the disease progressed from the time it appeared in that year among the soldiers of the legion of La Vendee until its arrival in 1855 in Boulogne! How capricious in its habits, and how fluctuating in its character! On its reaching a district previously unassailed, no opinion of its probable course, or of its amount of malignancy, could be formed from any experience of these acquired elsewhere. Having arrived at Boulogne, which maintains uninterrupted intercourse with England, the breadth of the English Channel proved, as might be expected, but a feeble barrier to the transmission of the disease to that country. Accordingly, early in the year 1857, we have the first distinct intimation of its arrival in England. It then appeared in Kent, from which it extended to Essex. Its progress was more especially in the direction of the eastern countries. Yet it was not limited to these. Almost simultaneously, we hear of its being in Cornwall. During the Spring and Summer, it seemed not to have the virulence it displayed in France; but the Winter of the same year wit-

nessed a progress as devastating as any experienced in the latter country. Not confining its attacks to such as had been enfeebled, it indiscriminately seized on the cachectic and robust. In some districts, it was comparatively mild. In Dudley in Staffordshire, the deaths were not in proportion to the number attacked. It was frequently complicated. In Gainsborough, Canterbury, Ashton under Lyne, Eastry, Freeham, Twickenham, it was associated with scarlet fever; with whooping-cough in Macclesfield, Congleton and Nantwich; with gastro-enteritis in Lincolnshire; with gastric fever at Beccles; with small pox in Lancashire; with measles at Acton, where out of twenty-five deaths eleven were due to diphtheria complicated with measles. Small pox proved a fearful complication, and largely contributed to the mortality. But in no part of England was diphtheria more virulent in form than in Norfolk. "In the district of Tunstead, six children of one man at Swafield, were carried off within five weeks, being all the family, with the exception of one infant at the breast." (*Report of the Lancet Sanitary Commission.*)

The epidemic in Essex, if not more severe in form, was perhaps more general and extensive in its attack than elsewhere. In the words of the "Report," "the affection (in Essex) was almost universal." But taking into consideration all the circumstances which contribute to the severity of an epidemic—the number seized, and the type of the disease—in no part of England was it marked by the same malignancy of character and the same remarkable prevalence of attack in combination, as in Lincolnshire. In England, as in France, the tendency of the pestilence in its progress was northward. In this respect resembling cholera and influenza, yet unlike them in not showing the same propensity to extend, as they, from east to west. Apparently capricious in its mode of seizure—in its course and in its results, too often feebly controlled by art, it maintained its destructive tendencies, whether these were expressed by typhoid symptoms—by asphyxia, or by a general failure of the powers of life, either immediately or remotely. We will not now stop, to inquire what were the pathological facts developed, and to discuss the various modes of treatment adopted

by British practitioners. The consideration of these, we postpone until we shall have glanced at the disease as it has presented itself in this hemisphere. The earliest notice we have of it in this country, is from the pen of Dr. Baird, who, under the title of "suffocative angina," has recorded the particulars of an epidemic that occured in New York in 1771. He describes the pseudo-membranous patches characteristic of this disease. More recently, Dr. Bell observed in Philadelphia an epidemic supposed to be diphtheria. These observations have not been made with the care and exactness that would entitle them to a formal or lengthened notice.

Still more lately, under the head of "Pseudo-membranous Laryngitis," several cases of Diphtheria have been detailed by Dr. Meigs. These cases were seen in Philadelphia in 1845. (American Journal of the Medical Sciences for April, 1847.) In some there was no fever, in others, this was violent. The fauces were covered with fibrinous exudation. The external lymphatic glands were much enlarged. Dr. Meigs' treatment consisted in emetics of alum, general bleeding, calomel, leeches to the throat, tartar emetic, purgatives and warm baths—means which would be wholly inadmissible at present. Nitrate of silver was applied in solution to the fauces. As several of his patients recovered under this treatment, it is reasonable to infer, the constitutional symptoms, were not of the malignant nature they have been in later epidemics. Dr. Meigs approved of alum as an emetic, a teaspoonful of which he administered as a dose, given in molasses as a vehicle, and repeated in ten to twenty minutes, if necessary. During the months of July, August, and September, 1848, Diphtheria appeared as an epidemic, in Augusta. Dr. Henry Campbell, of the Medical College of Georgia, speaks of it in his work, on the "Nervous System in Febrile Diseases." He thus writes: "There is occasionally met, a sporadic case (of Diphtheria;) but the disease occurred here once in the form of a most destructive epidemic, during which, a deplorable number of the children in Augusta and its vicinity fell victims. Paroxysmal fever prevailed that year, perhaps to no unusual extent; but in every child affected with the fever, the, at first, fatal marks

of this terrible affection would show themselves. The earlier cases, however, were unattended with any febrile symptoms. The child might appear perfectly well until the very disagreeable odor of the breath, or perhaps some difficulty of respiration would attract the attention of the parent or physician. On looking into the mouth, the posterior part of the pharynx would be found covered with the characteristic white secretion or false membrane; and the case under these circumstances, was often far advanced towards a fatal termination.

"We have said that nearly all the earlier cases were without fever, and yet this was by far the most fatal period of the epidemic. As it progressed, fever presented itself in some of the cases as a complication, and this fever was soon discovered to be of a paroxysmal character."

Dr. Blake considered the enlargement of the cervical glands the most common cause of death. In Dr. Wooster's cases, "the disease," he says, "was recognized by the following characteristics: high fever, rapid pulse, congested and watery eyes, coryza, diminution of urine, difficulty of deglutition, even of fluids; invariably by enlarged tonsils—one or both; by the characteristic pseudo-membranous exudation on the tonsil uvula pharynx or nasal lining."

According to Dr. Pollard, of Richmond, the disease has prevailed recently to a considerable extent in Shirley on the James river in Virginia. About thirty cases occurred, of which two proved fatal. Dr. Pollard's observations are particularly valuable, as they clearly illustrate the inefficacy of calomel in diphtheria. He administered it to a child aged five years, the attack partaking of a mixed character, malignant and croupal, in the dose of 8 grains on the 1st day; on the 2d, 3 grains every 6th hour; on the 3d and 4th days, 3 grains every 4th hour; on the 5th day he suspended it, as "green spinach" discharges made their appearance, and on the 7th day the child died. This and other cases induced him to withdraw his confidence from mercury in diphtheria, and to depend rather on supporting treatment. In the June number of the Boston Medical and Surgical Journal, there is a very practical and useful paper on the disease by Dr. Beardsley, of

Milford, Conn. In it he states that the disease first appeared in Orange, a town, as he remarks, "in an elevated situation, and in a remarkably healthy place, with only a sparse population, and for a while was confined entirely to the scholars attending a select school in the village, but who were boarding in different parts of the neighborhood." This he mentions to show that there was some endemic influence in operation. "Fourteen cases out of fifteen of those who were first attacked, proved fatal, in periods varying from six to twenty-four days. Twelve of these cases were in three families, four in each. Five were under ten, eight were ten to twenty-two, and one was forty years of age."

"Most persons residing in the district where the epidemic first appeared, had at different periods, and during its prevalence, symptoms of the disease, more or less severe; but those who were exposed, and attacked severely, (the writer among this number,) in removing to another locality, suffered from only a modified and mitigated form of it,—corresponding, in this respect, to the general law of endemics." He remarks that "the first symptom of this disease, and it is one," he observes, "which we have never seen referred to by any writer on the subject, was pain in the ear." We think, however, Dr. B. will find in Bretonneau's first case, mention made of this symptom. "It was," he continues, "invariably present, in every case that came under our observation, for a day or two before the patient made the least complaint in any other respect, and before the smallest point or concretion of lymphatic exudation could be discovered on the tonsils or elsewhere."

In Dr. Beardsley's cases, the appetite and digestion were generally unimpaired; and "although typhoid fever was superadded, or ensued in one or two instances, there was not in any case, mental disturbance that was observable, during any stage of the disease." In Dr. Pollard's cases, want of appetite was a very striking characteristic in every form of the complaint. Dr. Beardsley experienced no satisfactory results from external revulsives, and the topical application of astringents. "Hydrochloric acid and tincture of myrrh, combined in equal

parts, and applied with a sponge to the fauces, detached the pseudo-membrane more readily, and diminished the liability of its being renewed, more effectually than any other remedy used for that purpose. But Monsell's salt was found to be the most efficacious and valuable of all topical applications;" "and the free use of alcoholic stimulants, especially brandy and whiskey, generally produced profuse diaphoresis, by which great relief was experienced, not only from the general depression of the nervous system, but also from the most formidable local affection."

Since that, we have had the disease in Sacramento in 1856; and we are indebted to Drs. Blake and Fougeaud, for two well written papers on Diphtheria as it occurred there. From Dr. Wooster we have had an instructive essay embodying his views of the disease, as it appeared in San Francisco. Dr. Fougeaud seems to have encountered croupal Diphtheria more frequently than the more malignant form.

From what we have now seen, it may be remarked that this disease has modifications not only in degree, but in form. It has also various modes of accession. It may destroy life in a few hours by a violent and deep impression on the nervous centres attended by congestion of the internal organs; in this form, we may not be able to witness the pseudo-membranous exudation supposed to be pathognomonic of it. What a remarkable analogy there is in this, to what we occasionally see during an epidemic of scarlet fever: particularly in the commencement, when its virulence is most marked. Then it is not very uncommon to meet with a case terminating in death, after from two to four hours illness, without presenting the usual characteristic signs of the disease; a sudden morbid influence on the nervous system, and extreme congestion of internal organs, being all we have to account for the rapidly fatal result. In diphtheria as thus occasionally in scarlet fever, we may have a deadly pallor of the surface—a dusky hue of the countenance, and particularly of the lips, a soft irregular pulse, tongue moist and livid, pupils dilated, drowsiness, urine limpid, and often suppressed, no complaint of local pain, and an air of indifference when roused from stupor. In such cases, death will take place

within four hours. This form of diphtheria is rare; but there is another more frequently met with, and scarcely less malignant. The subject of it, generally a child, perhaps retires to rest apparently in its usual health. In the middle of the night, or rather towards morning, it awakes with a sense of distressing nausea, followed by vomiting of a thin whitish glary fluid. Then there is a purging of something similar; the fluid discharged from the stomach and bowels being particularly offensive. The child most probably does not complain of uneasiness in the throat: he is drowsy, and seems disinclined to answer questions. The face is pallid and its expression altered. On examination, we are struck with a shining crimson appearance of the mucous membrane of the fauces. From the velum a tenacious thin sheet of translucent mucous hangs like a curtain over the base of the tongue, the papillæ of which are developed, its surface dry, clean and red. The pulse is rapid, irregular, and compressible. The skin may be warm, though more generally cool. After a lapse of some hours, reaction takes place, and now there is a difficulty of deglutition. Drowsiness is succeeded by delirium; respiration is more frequent. The neck is swollen, hard and tender, chiefly in the parotid and submaxillary regions. The anterior half of the tongue may be clean, but posteriorly it is coated with a thick fur, which sometimes is continued to its tip. The whole of the fauces is covered with a deposit like wash-leather. One or both tonsils swelled. The breath is offensive. A thin sanies issues from the nares and there may be epistaxis and bleeding from the gums. At first, the urine is limpid, but should the attack not terminate in death within twenty-four hours, it becomes more colored and there will be a deposit of lithates; at a later stage it is albuminous and contains the coloring matter of the blood; petechial spots form on the surface: diarrhœa sets in, or if it has been persistent from the beginning, the discharges become altered in appearance, being like what we occasionally see towards the close of dysenteric cases—serous, and like the washings of flesh, accompanied by intolerable fœtor. The surface grows cold and either coma or a tetanic convulsion terminates life. When diphtheria thus presents itself, it generally

proves fatal within four days. Few cases of this kind escape, and fortunately it is not the usual type of diphtheria, even when malignant. The malignant form of the disease most familiar to practitioners, during an epidemic, commences with a sense of lassitude preceding a variable amount of fever and slight soreness of throat. The pulse becomes rapid, small and compressible; the tongue is covered with a thick, yellowish dirty-brown coat; the uvula, velum and pharynx are at first of a dusky red; deglutition is painful and difficult; the neck, about the parotid and submaxillary regions, swells; from the nose, distils an acrid humor; the voice changes; the breath grows fetid; the breathing, from mechanical obstruction, is stertorous; there may be vomiting, and there is much thirst. In some hours the erysipelatous hue of the fauces is replaced by a deposition as if, as Dr. Blount expressed it, a "thin layer of pie-paste was spread over the parts, the edges being thick and abrupt." The urine is scanty and albuminous; debility increases, and the patient sinks exhausted, often retaining to the last, the intellect in its integrity. This is the most frequent mode of accession, progress, and termination of malignant diphtheria; and its duration is generally from eight to ten days. The next variety of the disease is what has been termed croupal. In some epidemics, this has been the prevailing type. It does not appear to be attended with the same oppression of the system of those already described. A sense of constriction in the larynx is an early symptom; the accompanying fever is generally sthenic in character, though some such cases have not presented, from beginning to end any pyrexia—the false membrane rapidly extends to the respiratory organs; there is a hoarse, barking cough, with occasional paroxysms of suffocation, and death takes place by asphyxia. Nothing can contrast more strongly than the peaceful termination in death from asthenia so frequent in malignant diphtheria, and the distressing and painful struggle witnessed when asphyxia thus closes the scene.

In proportion to the suddenness of invasion and the signs of congestion will be the gravity of prognosis; whereas, when the invasion has not only been more gradual, but appeared

in the commencement with symptoms of catarrh, it will be favorable. This fortunately is the form in which this disease most frequently appears in this country. Coryza, slight fever with headache and a pain in one or both ears usually usher in the attack. There is some soreness of the throat without swelling either of the fauces or the glands externally. The appetite is often scarcely lessened. There may be diminished energy, but not so much as to prevent the patient attending to his usual pursuits. The fauces on examination, will present one or more insulated patches of pseudo-membranous exudation of a greyish-white appearance, not so defined at the edges nor bordered with the same distinct redness as in the malignant variety, but shaded off, as it were. In this form, which lasts from five to ten days, there may be some albuminuria; and even after the more prominent signs of the disease shall have passed away, albuminuria may for a variable length of time be persistent and accompanied by an anœmic state of the system.

When the febrile symptoms are slight; when there is no stupor; the pulse unaffected; the surface neither cold, nor of a dry burning heat, but soft and moderately warm; when the expression is not altered; the face not pallid nor dusky, the lips retaining their ruddy hue; the neck unswollen; the papillæ of the tongue undeveloped; and instead of a dry erysipelatous, and as it were varnished crimson, appearance of the fauces with much œdema of the woula and soft palate, there is a bright red and moist surface on which may be discerned the usual vascular arrangement; notwithstanding that the patches may be still adherent but separating at the edges, provided there be no appearance of fresh deposit, then may we hope for a favorable result. But it must be remembered, there is no disease in which amendment is more fallacious. We cannot, either from a particular sign, or assemblage of symptoms, calculate with the same approximation to certainty as in other affections, what the termination may be. The disease may have commenced without any indication of peculiar danger—may observe a course in accordance with the mildness of its accession—there may even be an improvement

in every symptom, when suddenly, hope is chilled and the buoyancy and confidence sinks in despair; the patient so lately supposed free from risk, is all at once seized with croupy symptoms, and in a few hours ceases to exist. The deceptive nature of these cases is most happily expressed by a recent writer. (Brown, *Half-yearly Abstract*, vol. xiii p. 70.) "I have seen them die," he says, "in four hours from such sudden invasions; they may linger five or six days, with intermissions of eight or twelve hours; the croupy breathing would suddenly cease; the little sufferer would sit up, smile, eat, drink, and amuse itself. The delighted parents would point to him in admiration of your skill. The sonorous breathing, which told so plainly at your last visit, that death was there, has disappeared; and off your guard, you, in the general joy, pronounce him safe. A few hours suffice to turn this joy into mourning; the stridulous breathing returns, to end only with life." In a case like this, a post-mortem examination will reveal the extension of disease from the pharynx to the respiratory passages, and death will have been the result of asphyxia. But it is by no means necessary to the production of asphyxia that the larynx should participate in the complaint—the enlargement of the cervical glands and of the tonsils, the swollen and coated state of the fauces and obstruction of the nares in combination with altered innervation, can of themselves produce asphyxia. In addition, there is in the malignant form of diphtheria, a more or less congested state of the lungs; in many cases, lobular pneumonia, and thus there is no difficulty in understanding how, in numerous instances of the disease, an exudation of pseudo-membrane in the larynx is not essential to the production of asphyxia.

The French physicians first observed that diphtheria might run its course from beginning to end, to recovery or death without a single pyrectic symptom. And though pyrexia be present, the type of the accompanying fever is not always the same. The tendency usually is to the typhoid. In this country, the attendant fever has occasionally been intermittent. During the epidemic in Augusta in 1848, Dr. Campbell remarking the accompanying fever to be paroxysmal in char-

acter, was induced to adopt an antiperiodic medication, which proved more successful in his hands than that previously employed. The disease has also within a short distance of this city been attended with the same form of fever. This may perhaps be owing to the region in which it appeared, being malarious; as it also was most probably the determining cause in Augusta.

The exudation of false membrane exists in all case of diphtheria, except in those extremely rare ones wherein the system is at once overwhelmingly oppressed by the attack, and life is extinguished ere time is given for the usual characteristic phenomena to be fully developed. It is not the cause of any subsequent train of constitutional symptoms, as Bouchut imagined. Neither is it a mere complication. But it is a link in the chain of pathological events—a never failing evidence of a peculiar morbid condition of the general system. Not more real perhaps than others—but one more clearly expressed. As constant as the inflammation and ulceration of the clustered glands in enteric fever—as the rash and catarrh of measles—the sore throat and rash of scarlatina. It appears very early in the disease, within eight or thirty hours from the beginning of the attack, commences generally on one tonsil or rather in the sulcus between the anterior pillar and tonsil, like a stain left by nitrate of silver on a mucous surface—a pearl-colored spot on a red ground. Sometimes it appears, at first, on the uvula or velum. From some one of these points, it more or less rapidly extends, so as often, in from twenty-four to forty-eight hours, to cover the tonsils, uvula, velum, pharynx, pillars of the fauces and base of the tongue, with a continuous layer. It may pass along the respiratory passages to the bronchial tubes and even down the æsophagus; according to some, as far as the cardiac orifice.

Has it ever extended to the stomach and intestines? We are not aware of any post-mortem examination that has revealed it in connection with this disease. Not that the stomach and intestines are insusceptible of an influence under which an exudation of false membrane is occasionally poured out; and that too, both in acute and chronic disease. Andral

saw it in chronic gastritis, and Habershon has detailed several cases wherein it was a complication of acute and chronic complaints; but in no instance, as far as we can learn, has it been visible on the mucous surface of the stomach or intestines in connection with the disease we are now considering. Future investigations may show that the exudation is less limited in this direction than pathologists at present imagine. It may pass from the nares along the nasal ducts to the conjunctivæ. The mucous membrane of the cheeks, of the gums; the cutaneous surface, the vulva and the anus may be its seat. Its thickness increases with its area. Its appearance is variable. Sometimes it is in distinct, dull white patches; at others, it is confluent. Occasionally it assumes a light buff, yellowish, ash-colored, or even black appearance. Its thickness varies from the thinnest imaginable pellicle to two or three lines. It may be firm, or be a mere diffluent pulp. The mucous tissue, on which it rests, is, in the fauces, generally unaffected by gangrene or ulceration; not, however, universally so; as one of these states will now and again exist. It is always congested and more or less infiltrated with products of inflammatory action. On its surface, between the basement membrane and epithelium, is the pseudo-membranous deposit exuded. After a few days it begins to be detached, separating at the edges, which curl up, and at the same time an offensive sanies flows from the surface now being exposed. It comes away either by piecemeal, in shreds, or with a more extensive surface. When violently removed, whenever this is possible, the mucous membrane beneath presents numerous bleeding points, but its surface is usually but slightly excoriated. However, when the cheek is the seat of the deposition, on the detachment of this, the surface will be more commonly ulcerated. Examined with the microscope, different appearances are seen, as the portions exuded at first or at a later stage are viewed. That first exuded consists of a net-work of coagulated fibrin mixed up with epithelium cells and with granular matter, whilst that subsequently formed, and in immediate contact with the mucous tissue, is more free from cells and consists of nearly lymph alone. The arrangement is laminar.

It was supposed by Dr. Laycock (*Med. Times and Gazette*), that the disease was the effect of a parasitic fungus (*oïdium albicans*) affecting the surface of the fauces and mouth. This is now thought to be merely accidental, and not necessarily connected with the affection. Some observers state, they can discern a distinct fibrillation; but this is denied by others. It appears incapable of organization, and in this, certainly differs from the matter exuded in croup, in which we have in some instances distinctly observed a well marked vascular arrangement. In stating this, we are aware we differ from Dr. Bristowe, who in the *Med. Times and Gazette* has published an excellent paper on diphtheria, yet we hesitate to receive opinions based merely on microscopic observation. It is not likely that products resulting from two so different conditions of the system as obtain in diphtheria and croup will be identical. The one disease is characterized by an altered state of the whole organism—by asthenic and toxic symptoms; whilst the other, as far as constitutional symptoms are concerned, has not a feature in common with it; and, moreover, in confirmation, admits with advantage of a treatment that has been proved to be positively injurious in the former. About the fourth day we will most probably have swelling of the neck. Now there is something peculiar in the appearance of this swelling. It is not shaped like that seen in scarlatina; it is more oval. It does not efface the angles of the jaws, neither is it so rounded or so equally diffused. The effusion which contributes to it seems to be rather under the deep than the superficial cervical fascia—especially under the layer that immediately covers the sterno-cleido-mastoid muscle. The submaxillary gland is more disposed to enlarge than the parotid and cervical. The swelling of the neck externally appears to be proportioned to the amount of disease in the fauces; where we find the glands much increased in size and generally swollen even down to the clavicle, we need not be surprised to see, on a post-mortem examination, the tonsils not merely enlarged and their sulci filled with purulent matter, but in some few cases that even gangrene has seized on either of them. We need not

expect to find nature in the progress of morbid change, limiting herself to the accurately defined path, to which some writers, in their zeal for system and distinctive pathological conditions, would fain restrict her. We will therefore occasionally see in this disease, ulceration and gangrene of the tonsils. When the attack is mild, and the general health unreduced, there is seldom the intolerable odor of the breath experienced when the type is malignant and a tendency to decomposition exists not only in the system itself, but in the morbid products separated from it. Vomiting is a formidable symptom in diphtheria. It declares itself, at two distinct periods. It may usher in the usual train of morbid phenomena, or be the immediate precursor of a fatal termination.

We have now viewed diphtheria as it destroys life or finally disappears, after a few weeks at farthest; but it may be seen under other phases. The patient may have recovered from the immediate effects of the attack; he may even appear convalescent; and yet, without any further well-defined symptom, he may sink in several weeks after all the characteristics of diphtheria shall have disappeared; or he may suffer from partial or general paralysis. Paralysis may not set in as a sequela for some weeks after the date of the seizure of the complaint. After all disappearance of false membrane, and when deglutition is no longer painful, a morbid impression still continues to be made on the nervous tissue, causing not merely a persistence of general depression, but even impairing or altogether suspending the functions of the nervous system. Four cases are related by Dr. Eade, of Norwich, in which paralysis supervened on diphtheria: in the first case the person began to complain of paralysis in a month after apparent recovery from diphtheria; in the second, in fourteen days; in the third, in ten weeks; and the fourth case is that of a patient in whom the original attack was so slight as not to prevent his working. In a fortnight afterwards he thought he was quite well, when he was seized with numbness in his hands and feet, preceded for two or three days, but not accompanied, by vague pains in the back and elsewhere. (Cases of Paralysis, by Peter Eade, M. D., *Lancet.*) In all these cases, the spinal

system was especially engaged. In two, the fifth nerve was affected, there being numbness of the cheeks and nose.

Whilst our attention is directed to this part of our subject, we cannot avoid considering somewhat in detail the phenomena more immediately dependent on the undoubted though mysterious influence of some poison on the nervous system. We have been struck with the generally unmanageable nature of the cases in which violent and long-continued vomiting has been a prominent symptom, and have been induced to consider this as the result of a direct and morbid impression on the source of the par vagum. To this we also refer much of the dyspnœa encountered in some cases, wherein neither the amount of pseudo-membranous deposit, nor the situation of it, nor the extent of external swelling of the neck, nor of the fauces can satisfactorily account for this symptom. Perhaps Dr. Pollard's 2d case, as related in the *Virginia Medical Journal*, for September, 1859, will supply what is illustrative of this. The dyspnœa and vomiting in that case were most prominent symptoms, and will admit of explanation on this ground more readily than on others. In many of the untoward cases the fatal result has been preceded by a loss of deglutition, which should rather be referred to the same source than to the mere injury done the muscular tissue itself. It is probably due to impairment of the motor functions of the pharyngeal branches of the par vagum: perhaps, also, the muscular branches of the glosso-pharyngeus, which supply the stylo-pharyngeus, and partially, the constrictor muscles, receive some unfavorable impression of the same kind. The afferent functions of this nerve may likewise be compromised; the conveyance of impressions from the surface of the fauces to the medulla oblongata being suspended by the noxious influence of the poison on the nerve. These paralytic affections that appear as sequelæ of diphtheria, almost always yield to suitable treatment. A case, however, is recorded where death took place from a lesion of the nervous system expressed during life by hemiplegia. Cases of amaurosis are also recorded, owing their origin to the same cause.

Diphtheria, when epidemic, is also contagious. There is no

fact better ascertained than this. A child with the disease was attended by M. Herpin, of Tours. During one of his visits, the patient being seized with a fit of coughing, some of the diphtheritic matter that was ejected having rested on the aperture of M. Herpin's nostril, he for some time omitted to remove it. The result was near being fatal. Diphtheria declared itself, which, being cured with difficulty, was followed by a protracted convalescence. Gendron, of Chateau de Loire, received the disease in a similar manner, and narrowly escaped. In addition, a case is recorded of a boy having contracted cutaneous diphtheria by using a bath in which a diphtheritic patient had been previously bathing.

The post-mortem examination of those who have died of diphtheria, often reveals serious lesions. In severe cases, the areolar tissue of the neck will be not only congested, but infiltrated with a yellow gelatinous serum, or even with blood; and this frequently from the jaw to the clavicle. The pharynx, and, for some distance, the œsophagus, the tonsils, the cheeks internally, the mucous membrane of the nares, and its prolongation towards the eye, the pillars of the fauces, and both surfaces of the epiglottis, velum, uvula, larynx, trachea, and bronchial tubes are occasionally covered with the characteristic pseudo-membrane. The sacculi laryngis may be filled up with it. The mucous membrane beneath may be but slightly excoriated; it is not often ulcerated, and still less frequently gangrenous. The tonsils may be simply congested, may contain suppurating cavities, or even be gangrenous. In the worst cases, the lungs will present patches of red hepatization or of purulent infiltration separated from each other by portions of crepitant lung. Elsewhere there may be more or less of simple congestion, and the bronchial tubes may contain much mucous. Blood is seen occasionally extravasated in the muscular tissue of the heart. In malignant diphtheria the kidneys often bear marks of disease; though in every case of this disease wherein albuminuria exists, we do not attribute it to a positive change of structure. In some cases, there will be seen hemorrhagic exudation into the tubules, and a granular condition of the epithelial cells. Some-

times the channel of the tubes is lifted up by them, and transparent fibrinous casts are seen. The viscera are often dotted over with petechial spots, owing, most probably, to some change having taken place in the blood.

(To be continued.)

ARTICLE 8.

REMOVAL OF SEVEN INCHES OF SHAFT OF THE FIBULA—RECOVERY OF THE PATIENT—DESCRIPTION OF A NEW INSTRUMENT FOR FACILITATING THE PASSAGE OF THE CHAIN-SAW UNDER THE BONE.

BY E. S. COOPER, A. M. M. D.,
Professor of Anatomy and Surgery in the University of the Pacific, San Francisco.

Case.—Mr. A. A. aged 35 years was admitted into the Pacific Clinical Infirmary, June, 1857, in consequence of long standing ulcerations and sinus openings on the outer part of the right leg. On introducing the probe through the small sinuses leading to the bone, the fibula was found in a carious condition nearly all along its shaft. The patient, a laboring man, had been entirely unable to work for many months.

I decided at once to exsect the diseased bone.

Operation.—The patient, being placed upon a solid table on his left side, and chloroform being administered, I made an incision nine inches long in the direction of the shaft of the fibula down to the bone. The periosteum was found thickened though otherwise healthy, save in the numerous perforations through it corresponding to the sinuses communicating with the surface. A slit was therefore made through it almost as long as the incision through the external parts, when it was readily pushed aside, leaving the bone exposed.

An instrument was then used which I had invented on purpose to facilitate the passage of the chain-saw under the bone and which I have named the chain-saw conductor.

It was made as follows: A piece of steel wrought into the shape of a needle, but about seven inches long, and thick accordingly, with a straight shaft, but curved very much at the

point. An eyelet hole in the perforating extremity received the ligature which was used in drawing the saw through. The point of the instrument being thrust through the tissue very close to the bone, appeared on the opposite side of the puncture conveying the ligature which was secured, and the conductor withdrawn.

The instrument made a sufficiently large opening to admit the passage of the chain-saw with ease, as well as a piece of chamois leather, which was conveyed along with and between it and the soft parts for their better protection againgst laceration by the saw. This being arranged, there was nothing left but to divide the bone, which was done in the same manner, both above and below, seven inches apart, when the intervening section of bone was taken away.

A roll of lint was then applied in the wound, a roller tightly over the leg and foot, an evaporating lotion of one part of alcohol, to ten of water, was used to keep the dressing constantly wet for the first five days, and spirits of mindererus freely administered.

At the end of this period the cold applications were discontinued, the roller removed and poultices applied to the wound.

No burrowing matter ensued, the wound was free from inflammation during convalescence, and in three months after the operation, the patient was enjoying comparatively good health with the leg almost as useful as ever, the bone having been reproduced, or some solid substance answering as well.

The lint was permitted to remain in the wound for two weeks, when it was removed.

Remarks.—I am aware that the plan of leaving a piece of lint or any other foreign body in a wound of this kind, is contrary to the practice of surgeons of this day, and that it would by many be considered very reprehensible, because it is the wish of surgeons generally to have such wounds heal as nearly as possible by first intention, whereas this method most effectually prevents it.

I am convinced however, by experience that it is the true method of conducting the after-treatment of these cases because

my success in the cure of such patients since I adopted it, has been much greater than before.

I deny, that atmosphere admitted into wounded bones or joints is in any way injurious, so there is no objection to having the wound open on that account, and a roll of lint pressed tightly against the cut surface of the soft parts by means of a roller applied over the limb, not only prevents secondary hemorrage from the numerous small arterial branches which are frequently wounded in these operations, but it is the means also of condensing the tissues on the cut surface and thereby interrupting the passage of purulent matter from the wound into the surrounding structures; but above all, it keeps the wound freely open for the escape of purulent matter, or even any spicula of bone which may by exfoliation subsequent to the operation, require a free opening for its removal.

In many of these cases where a large section of one of the long bones has been removed, and the reproduced tissue occupying its place is slow in hardening, I use accupuncture needles, or a small drill, by which numerous holes are made into this substance, which is often found at the expiration of three months, of less than cartiligenous hardness. But in this state I have frequently been surprised and highly gratified at the rapidity with which hardening would take place, after the drilling was begun.

The idea of this practice occurred to me in consequence of the ingenious experiments upon animals for the cure of pseudarthrosis, made by Prof. D. Brainard of Rush Medical College, some years since, in which the practicability of hardening the callus connecting the extremities of bones by a similar practice was fully demonstrated, and which is destined to exercise considerable influence upon the practice of surgeons, seeing that the operator need not hesitate to remove diseased bone since he has learned the mode of quickening nature's efforts at reproduction, when she appears either too slow in her work or stops altogether.

It becomes a question with me whether bone could not frequently be produced, and the tissues always hardened by this process, even in parts where no bone had existed before.

Nearly all the tissues tend to bone as age advances; and rheumatic inflammation, and injuries often produce ossification of ligaments.

As I have already published my views at length upon this subject, I will add no more to this communication.

ARTICLE 4.

OPERATIONS FOR THE RESTORATION OF THE NOSE.

Rhinoplasty, the name given to operations for restoring the nose when lost, or improving its form when deformed, is carefully described in all recent works on operative surgery. Yet it is performed by but few surgeons, and not demanded by one patient in ten of those to whom it is applicable, from its not being sufficiently well known and favorably appreciated. Velpeau, in his Operative Surgery, speaks of it in a manner calculated to discourage its repetition, calling it "patching," and saying that it is only in some cases that it offers all the regularity desirable. Under the belief that it is extremely liable to failure, and not very satisfactory when successful, I have several times dissuaded patients from having operations of this kind performed, wherein I now believe good and satisfactory results might have been obtained. In cases of disease the chance of failure is greater than where the deformity results from injury. In these latter, with suitable skill, it will rarely fail.

The method to be chosen should be adapted to the peculiarities of each case. When the point of the organ has been lost, taking the tissue of repair from the forehead is best; when the nose has settled from ulceration of the bones and cartilages, the method recommended by Mr. Ferguson, analogous to that of Dieffenbach is sufficient.

In illustration of the former plan, the following case is given. The figure is from an ambrotype, and represents the appearance of the nose as restored with fidelity:

Case 1. John Cullen, an Irishman, aged 23 years, had his nose bitten off and one of his eyes gouged out in an affray, on Thanksgiving day, 1856. Nearly all the cartilagious part had been removed, and the portions of the *alæ nasi* remaining were drawn asunder so as, together with the loss of the eye, to give to the countenance an expression quite hideous.

The operation was performed May 12, 1857, by bringing down a flap from the forehead in the usual manner.

The flesh was carefully adjusted to the denuded edges, and the edges of the wound occasioned by its removal brought together by stitches. The stitches employed in fixing the flesh in its place, were removed on the sixth day. Compresses and adhesive plaster being resorted to, to prevent the danger of displacement. The connection of the flap was divided June 20, the cicatrization at the points of attachment being, at that time, complete. The figure was taken three months after the operation. No one not aware of what had been done would be able to perceive at all that the nose was not natural.

Case 2. Miss S., a very interesting young lady eighteen years of age, consulted me on account of a flatness of the nose, produced by a blow received in early childhood. The bridge of the nose was almost on a level with the face, and the lower part of it much turned to one side. One nostril was quite closed by the deviation of the septum.

The operation performed consisted in first dividing the septum and then carrying a narrow bistoury between the skin and the bones of the face from within the nose, so as to separate the tissue on the dorsum and sides of the nose, and from the cheek as far as the *infra orbitary foramen* on each side. The skin thus loosened was then transfixed from the inside with two needles armed with double ligatures, which were tied on each side

over a piece of wood, the two pieces being thus approximated so as to raise the skin to the desired point. This operation succeeded perfectly, and the result was all that could be desired.

Case 3. Recently we have performed this operation on a young man whose nose had been shockingly mangled by the bite of a dog, and which, although treated with care at the time, was so irregular after cicatrization, as to cause him to desire an operation. Although but recently performed, the result of this operation seems favorable.

There is one point, however, to which I would call attention. When the stitches require to remain many days they partially cut out, (even when silver wire is used, as was done in this instance,) and allow the skin to settle down. Cicatrices are also left, more or less unsightly. To obviate these inconveniences I removed the wires and kept the pieces of wood on each side of the nose in place by little springs of steel wire, like the *serre fine* of Vidal. This succeeded perfectly, and by proper precautions may be made to supersede the stitches altogether. Possibly they might be so employed as in case of ulcerations to prevent, in some useful degree, the deformity, and thus render any operation unnecessary.

ARTICLE 5.

OPIUM:

ITS INFLUENCE IN FEBRILE, INFLAMMATORY, AND OTHER DISEASES.

A PRIZE ESSAY. BY A. S. HUDSON, M. D.,
Prof. of Physiology, Pathology, and Clinical Medicine in Rush Medical College.

Editors of Chicago Medical Journal:

Gents: An essay of mine, under the above caption, having been honored with acceptance and publication by the State Medical Society, appears in the transactions of that Society, imperfectly printed. Not being in the city at the time, I could

not read or correct the proof. If in your journal you can spare the room, I would be glad to have it re-printed in a more intelligible form.

Yours, respectfully,

A. S. HUDSON.

Give anguish a tongue, and reason to a remedy,
And they will commune together in blissful concord.

To calculate the worth of an agent by the same rule from which Napoleon estimated the worth of a man, namely, by what he can do,—it must conceded that opium is the giant of the materia medica. It is one of the oldest remedies of the catalogue. Among the changes of professional fashion, or of medical caprice, none has maintained the perpetuity of a large respect equal to opium.

It has many friends, but few enemies. It has many capabilities, but few defects. It has mighty powers, yet its mischiefs, through error and depravity of usage, are among the list of minimums.

Ethereal theories in medicine, and extravagant systems of practice, have, for the last few centuries, arisen every fifty years; opium finds a ready niche in the newly created temple of each, and quietly lends, as ever, its faithful charms to the suffering world. Opinions change, and doctrines pass away, but opium is still respected as lord of physical woe, and held ready for the oft arising pang of sharp emergency.

In discussing the therapeutics of opium, it may be systematic to divide the subject under three natural heads.

1. The physiological action of opium.
2. The general therapeutics of opium.
3. The powers of opium in febrile and inflammatory diseases.

1. *The Physiological action.*—Opium is one of those agents whose energy is not often obliterated by mental action, nor augmented by the coadjutive unction of faith. Its medical properties depend wholly upon the inherent potencies of itself. Morbid action and intensified mentality may modify its forces, but they do not obliterate them.

It acts with the same fidelity upon the unconscious infant, as in the vigor of manhood writhing under throes of pain, or in the time-furrowed system of the aged and demented.

In minor-sized doses, opium is defined as a stimulant, augmenting the motion of the blood, the mental faculties, the nervous tone, and induces a feeling of muscular comfort.

In a larger dose, the pulse is lessened in number, but its volume is increased, respiration diminished. The stomach frowns upon, and objects to its natural duties, and often acts in reversion by emesis. A dull and lazy pain attends. The pain in the stomach is a sort of constriction or corrugation, by which its walls seem to be drawn together, or strongly compressed. The tongue and fauces are dry, and there is a cutaneous pruritus. The mental faculties enjoy a serene pitch of self-entertainment, or a prepossessing degree of repose. Sorrow has fled, and the twinge of pain is wrapped in the magic spell of physical felicity, never again to return, or to return with diminished consequence.

The third degree of operation is a toxic influence. It paralyzes the respiratory muscles, respiration is labored and even lost. There is stupor, and contracted pupil, livid countenance, and muscular relaxation; giddiness.

Constipation is an effect that follows any sized dose.

Pereira states that opium is an aphrodisiac, and augments the venereal propensity. So far as my own observation extends, in studying this effect upon myself and others, I must, in all deference to the great English author above-mentioned, enter the averment of a stout denial; and state to the contrary, that it invariably allays even natural salacity. This point is further sustained by the testimony of opium eaters, as the "Baltimore Bard," and a writer (a reclaimed subject) in the *N. Y. Medical Times*, for 1849. To this excellence of opium—the non-excitation of the sexual functions—we must attribute much of its curative ability in some inflammatory diseases we shall specify anon.

Opium is a cerebo-spinant, and acts, according to Flourens, on the cerebal lobes; while belladonna operates on the corpora quadrigemina. The kind of influence displayed over the mind

by this drug, is by no means uniform. That blissful revery so highly enjoyed by the opium eaters, is an ecstasy which I am disposed to believe follows its use in only about half the cases; the other half will experience the hypnotic and anodyne effects, but no special mental elevation. There is, therefore, no danger of this latter half becoming intemperate with opium. Nor does the truth of the statement, that the habit of consuming the drug always requires the victim to increase the size of the dose from month to month to maintain the same feeling of supreme felicity, reach any further than perhaps half the cases. The individual mentioned in the *N. Y. Medical Times*, writes thus of himself: "After commencing or recommencing the use of opium, I always reached the full amount which as a *habit* I ever used, that is, either an half an ounce of opium or a quarter of an ounce of morphine in a week." Such also is the case with the only opium-eater with whom I have met. She has taken morphine for six years, and by a dose once or twice a day, she consumes about half a drachm in a week. She has recently abandoned the habit, by making a daily dimunition of the size of the dose.

There are many idiosyncrasies which rest opposed to the friendly influence of opium. Some patients, mostly females, are kept awake through its action, instead of enjoying the somnific repose it promises. This minor objection can be remedied in two ways. The coveted sleep, which stands off like a ghost at arms-length, comes at last, but at a late hour. It is belated, and may be hastened by giving a larger dose, or giving the same dose a few hours earlier. To increase the dose one-quarter or one-half the usual amount, may generally be done without prejudice to the case.

Retention of the urine, through seeming paralysis of the vesico-genital organs, is a frequent result of a full dose; it however, passes away in six to twelve hours.

The next and most abiding objection to opium, is nausea, which is a secondary effect of its operation. This is the most vexatious with female patients, and arises in from three to ten hours after its ingestion. Some will vomit and retch for many hours, while others again are only slightly

sickened. As a general rule, individuals who use tobacco, are exempt from the effect of opium. The evil property is supposed to depend upon the narcotine it contains. Accordingly, Mitchell's Therapeutics gives the subjoined formula, which the author, with much scientific looseness of expression, states to be without narcotine. R Sixteen grains of pure morphia, eight grains of crystalized citric acid, are to be dissolved in an ounce of water, and just enough tincture of cochineal to give it a pink tinge. Dose, 5 to 25 drops.

He appends the random praise that "I have found it a very pleasant opiate." Query? What becomes of the narcotine here? Is it impotently neutralized? Is it expelled? He does not say; nor does he state that his preparation is free from narcotine and from nauseating qualities. Orfila at one time declared narcotine to be inert, but afterwards thought it acted like morphia, and had an operation remarkable and peculiar.

Bally asserts that in a solid state it is inert, for 129 grains given at a dose produced no obvious effect. Dr. Roots gave scruple doses without injury, but from its bitterness employed it in intermittents in place of quinine. The truth is, I believe narcotine possesses but little activity, and I presume the first experimentors with it, employed an impure article. (Pereira.)

2. *General Therapeutics of Opium.*—The principal property of opium, and the one for which it is mostly used by the majority of practitioners, is its anodyne or hypnotic characteristic. Without lisping a word tending to lessen the high estimate of this quality, yet, when contrasted with its other powers, it is, if any thing, the inferior. Opium is not merely a soothing comforter, beguiling turbulent agitation into reluctant sleep, and thus acting as a palliative, but it is an instrument of veritable cure. It not only abates the sting, but it removes the thorn; while it carries life's struggling vessel in tranquility over a heavy sea of disease, it will often, at the same time quell the tempest. Thus, in gastralgia, and in contorting colic, a large dose brings sovereign relief, and thwarts their return for many weeks or months, or perhaps never to return. But should they relapse, the same happy effects may be confided in again. And here let me say, for the treatment of these assassin-

like maladies, that opium has no rival. We challenge the profession to exhibit its master, either for temporary or perpetual relief. Generally, from first to last, it is the remedy. Bleeding, warm bath, nauseants, may assist its action, but they are mere adjuncts and subordinates. These are among the cases in which the physician does not leave the patient till he is convalescing.

Your honorable Society virtually asks the question, "Is opium a febrifuge, or does it possess antiphlogistic properties?" The reply to this question will be considered in the last part of this dissertation. But let us first inquire, *Is opium an alterative?* Does it effect such a changed state of action as to bring it under the definition of an alterative? We claim it does; it is an alterative of no despisable energy. Mr. F. C. Skey (*London Lancet*, Feb., 1855,) makes the following remarks on the efficacy of opium in the treatment of chronic ulcers in the legs: "I venture to attribute to this remarkable drug, (opium) the property of promoting the formation of healthy granulations on a surface that, notwithstanding all the previous appliances of surgery, is yet flat, pale, and ungranulating. Now, there is no example of the power of opium to effect this more conclusive, or in which there is more work to be done, than that form of disease of which I am speaking—which consists of a gap formed on the surface of the body, of greater or less depth and diameter, and in which there exists not even a trace of curative action—and yet the object is accomplished by means of this agent, and often with remarkable celerity."

Mr. Skey beholds similar properties in this medicine in the treatment of senile gangrene, which is a painless disease. He says it maintains the balance of the circulation. "How much of meaning is attached to these words! How many affections of the bodily frame may not be brought within the range of this definition! Take the common chilblain; what is it but a local congestion of blood caused by defective capillary power? there is no better remedy than opium; cold feet, as characterizing a person or a constitution, is equally relieved; senile gangrene, the result of arrest of the capillary circulation, or its

apparent opposite; local hyperæmia; these diseases, one and all, manifest a loss of local power, a failure in the balance of the circulation. The influence of opium in such conditions is that of promoting a genial warmth over the system, a glow exactly resembling, in fact identical with, that produced by the re-action on the system which is caused by the cold bath. *It is local health*, and the sensation is most agreeable. * * * * * I have related to you the particulars of several cases of chronic ulcer in which recovery was attributable to the medical properties of opium, and almost to opium alone. The character of these ulcers strongly marks the inactivity of their nature, and hence the class of society to which they belong. They are marked by a flat base, which indicates by its pale, flabby uniformity of surface, that no reparatory action has approached it. It is often surrounded by a thick, high ridge of lymph, covered by unhealthy integuments. The depth of the ulcer, which may be seven or eight lines, is caused partly by the ridge, and partly by the excavation of the ulcer below the natural level of the healthy integuments. So long as this ridge exists, although granulations may form, and will form from the date of the employment of the opium, yet cicatrization will never complete the process of cure unless the wound or ridge be absorbed. Now the action of opium is not alone exhibited in the development of healthy granulations, but in the entire complement of such actions as are required by the sore, viz: the formation of new material and the absorption of the old."

We have other authorities on this head; statements which, like the above, by their conceded weight of authority, carry with them a breast of proof, which well supplies the place of facts, and shortens the line of argument. After ample opportunity to render his observations in syphilis authoritive, M. Rodet comes to the conclusion that it is an error to regard opium as a mere succedaneum of mercury; it acting, in fact, most efficaciously in just those cases in which mercury is of least use, and *vice versa*.

When in chancres there is a manifest tendency to phagedena, or they are irritable and painful, mercury should be rigidly for-

bidden, while opium is always useful in assuaging the pain, diminishing the irritability, and modifying the suppurative process. But the case in which truly remarkable effects are produced by opium, and in which it acts almost as a specific, is that of *phagedenic, serpiginous ulcers.*

M. Rodet, prior to resorting to large doses of opium, treated them by a great variety of means, without any satisfactory result. The cyanide of potassium, although incapable of healing them, effected considerable amendment in their appearance. The iodide of potassium was found to be of no avail; and those who believed in its efficacy have confounded those primary ulcers with other serpiginous ulcerations, which much resemble them in appearance, but which appear during the tertiary period of syphilis. As to mercury, not only is it useless, but mischievous, and should be rejected. When the ulcers decidedly manifest these appearances, opium exerts a most beneficial effect upon them. If some obstacle impedes the progress of cicatrization, the opium does not operate against this which has to be removed by other means; and the neglect of this precaution may lead to the loss of much time, and the taking of large unnecesary quantities of opium. The opium must not be given in too divided doses, as if the stomach be kept too constantly under its action, digestion is interfered with. The entire daily quantity should be taken at two doses, morning and evening, leaving a sufficient space of time after meals to secure the completion of the digestive process before administering it. If this point is not attended to, indigestion, accompanied with nausea, vomiting, diarrhœa, sweating, prostration, a cephalalgia, etc., comes on; compelling a temporary cessation of the remedy, and reacting unfavorably on the ulcer. Sometimes, notwithstanding the precaution, the stomach gets fatigued, and digestion is indolent and accompanied by nausea. This inconvenience is easily avoided by recommending the patient to take light wines with their meals, proportionate to the quantity of opium employed. Thus, suppose the quantity of opium taken daily amounts to fifteen grains or thereabouts, from a pint to a quart of wine should be allowed. Constipation, so common a consequence of taking opium, is almost cer-

tainly avoided by this means; and an excess of sleep, is quite exceptionable. (*American Journal*, Oct., 1856.) These cases abundantly demonstrate that opium is an alterative.

In *Typhoid Fever*, opium is employed by most practioners in various forms, to meet numerous objects which each one regards it capable of filling. Dr. Graves, of Dublin, treated his patients with much regularity and a similar uniformity with hydrarg cum creta, and Dovers' powder. Success flattered the course. But believing that mercurials exert little or no necessary control over typhoid action, to lessen its grade, or shorten its course, and believing also that the beneficial portion of Graves' treatment was due to the un-accredited opiate, I have for several years in my practice, abandoned the one, and centered my confiding trust upon the other. Dovers' powder or morphia, and brandy, therefore constitute the principal medication of some twenty-five cases of this disease; two of which proved fatal. Hence it is more than probable, if practitioners would choose to let their patients lean upon it in typhoid fever, it would take the place of many other remedies, and repay its selection.

In inflammation of the neck of the uterus, which is essentially a local disease, and frequently of a chronic character, opium, in its treatment, is competent to play a conspicuous part. In aggravated cases that have advanced to ulcerative conditions, local escharotics are among the first remedies, and opium is the second. But many of them present a mild form, and exist short of erosion, when local caustics are useless, or at least unnecessary, then opium comes in as the strong hold to do the work of an unquestioned remedy.

Several of these mild cases I have treated almost exclusively with this drug, and sometimes adding an occasional blister. Opium not only lays a gentle hand upon painful vigils, but I cannot avoid the conviction that it acts as a revulsive upon the uterine circulation, as external cold is believed to act upon the cerebral circulation. It was upon this ground that we entered our opinion that opium was adverse to a full vein of venereal orgasm.

3. *The powers of Opium in Inflammatory and Febrile Diseases.*—From March till May or June in this latitude, there are frequent catarrhal affections of the throat and air passages to be met with and treated.

Some of these attacks introduce phthisis, pneumonia, obdurate bronchial disease, or inflammation of tonsils and fauces; the latter of which if not at once abridged, may continue from six to thirty days. Take then that group of symptoms which generally represent the generic outline of each. The patient, from exposure, fatigue, or atmospheric vicissitude, has had a chill; he is stuffed up, breathes with an embarrassed or wheezing respiration; has a sense of tightness across the chest, and tendency to cough; or perhaps, he has a red and painful sore throat. He may have head-ache, eyes red and watery, schneiderian membrane thickened, and discharges an augmented excretion; in other words, the patient declares he "has taken a violent cold."

Now to mend this state of things without delay, a large dose of camphorated Dover's powder—ten to fifteen grains—(of which one quarter is opium) taken at night for three successive nights, will blench nearly every case. They are at once relieved, and in from three to six days they are as well as ever. They have no need of purgatives, emetics, antimony, mercury, or other alternatives. It is proper to say, the febrile action of many of these cases will be more happily met by preceding the opium with veratrum.

A course of treatment identical with this was pursued by Dr. Henry, of Pekin, Ill., many years ago. To his original mind, bold hand, and athletic judgment, the profession is made a debtor for a certain amount of knowledge of the powers of opium, hitherto unknown. Dr. Henry was the first who presumed to treat intermittents with this agent as the chief remedy. Until he published the results of his observation, no practitioner dared to give but a grain or two of opium at a dose; and when he announced the economy of giving 4, 6, 8, and 10 grain doses, the medical faculty were ready to scream with terror at his temerity. His practice which stood out with such a touch of boldness, was characterized by as remarkable

a swiftness of success. His patients recovered with an unprecedented celerity. He not only demonstrated the folly of giving mercury, and the fallacy of its action in intermittent and bilious fevers, but he made a sound reduction in the amount of quinine employed. Yet at the time these observations were published, he continued to give calomel with opium in these fevers, as "a convenient purgative." Confronting the old idea of waiting till the paroxysm of chill and fever had passed, he lost no time in administering relief, he gave his remedy as soon as he arrived to the bed-side of his patient.

We quote one case of "Congestive Intermittent" as an illustrative sample: I was called to Mrs. S. She had been taken the evening before with what she supposed to be a simple chill and fever. The chill had lasted some six or eight hours, accompanied as she expressed it, with a burning fever, with a feeling of freezing all the time, with the sensation of a loaded wagon runing over her breast. She was lying in bed comfortable, and free from fever, as she supposed; but expressed herself alarmed for the consequence of the next chill, which was expected in the course of two hours. On feeling her pulse, I readily detected that peculiar, but indescribable pulse, always found during the intermission in this form of disease. She said she felt tired, and when she attempted to sit up, became sick at her stomach. I was satisfied that the next paroxysm, from the general appearance, would prove fatal, unless prevented, or greatly mitigated, and there was no time to be lost. Accordingly, I administered in a little coffee, five grains of quinine with five of opium, and left five more of quinine and two of opium, to be given in six hours, and directed hot teas: but before leaving the house she complained of feeling cold, and commenced breathing quick and laborously. On going to the bed-side, I found her hands cold; pulse small and rapid. The powder had only been swallowed fifteen minutes, not long enough to produce any sensible effect on the system, still I had every confidence it would moderate the paroxysm. I applied a strong mustard poultice to the stomach, which acted promptly, improved the breathing, and by this time the powder began to act. The pulse became

slower, and more distinct, drops of sweat showed themselves upon the forehead, and in one hour from the time the dose was administered, she was perspiring freely, and said she felt better than she had for two days before; and being satisfied she was safe, I retired for the night, repeating the direction to have the second powder taken at the end of six hours. The next morning I found her entirely comfortable; had not slept much during the night, but felt disposed to sleep then. I directed a dose of oil, which operated in two hours very freely, when I repeated the quinine in five grain doses, without opium, and left my patient convalescent. The next day she was up and doing her work.—*Ill. and Ind. Med. and Sur. Journal, Dec.*, 1847.

Whoever has studied intermittent fever, or has experienced in his own person an attack, knows it is, as McIntosh says of Rheumatism, "a disease very unpleasant to bear." It musters an army of evil sensations, and each sensation is armed with a pointed spear of pain. Opium will not only vanquish every belligerent pang, but it well nigh clears the field of miasmatic marauders. It abates the order of march of this morbid action. These powers are exerted, says Dr. Henry, through the sedative action of the drug, given in four to eight grain doses, every six to eight hours.

A cautious consideration should steady the hand when opium is exhibited to infants. Dr. Thomas D. Mitchell, in his Materia Medica and Therapeutics, published in 1850, employs this singular language. He says: "But I desire to express my opinion in reference to the administration of opiates to infants; and I mean to do so emphatically. I take the position that an infant under a year old, never requires the medicine internally if at all. It should never be given to such tender subjects on any pretext whatever; first, because it is not necessary to their health or comfort, and second, it is truly a poison to their tender tissues."

This much we quote only to take a mammoth exception to it, and to place his injunction at the north pole of our medical esteem. Every practitioner must feel, at the perusal of this detracting sentiment, that it puts to torture countless facts of

almost daily occurrence. Dr. Mitchell must know that infants are often sick, as well as adults. That like adults they suffer pain, and their claim upon medical science for speedy relief is equally imperative. Now, to deny a child the most grateful means of relief in our hands to give, because it is little, and unable to defend itself, is a trangression of a rule of humanity, pays a poor compliment to our profession, and demands it to pause, and make here a beggarly stand. If an infant is tender and susceptible, it is therefore more susceptible to medicines, a responsiveness which holds to the advantage of the discreet physician. It then requires a less dose. Shall homœopathy, which is puffed with a monopoly of doses intensely divided, be furnished with a driveling argument, by reason of this repulsive mode of standing back? Can a child so small and tender, that even a giant remedy may not be reduced in size, exactly fitted to the infantile state? No! We answer in the austerity of scientific confidence, no! If there be a microscopic disease, why not be rational, and give a corresponding microscopic remedy? If there are nice points to weigh while prescribing for infants, though it be the thousandth or ten thousandth part of a grain, is it not the business of the skilled physician to calculate them? Any dolt can prescribe a coarse dose for a plain case, but refined distinctions, based often upon narrow postulates, characterize the labors of the scientific physician.

Dr. West, one of the highest authorities on diseases of children, hesitates not to give opiates to infants under the same indications which necessitates their use in the adult. Infants from a few days to a few months old, are frequently liable to sudden fits of colic. The little sufferers will cry and writhe under it most piteously. Sage tea, a little brandy, or other carminative, will relieve these cases at first, but after several exhibitions they become inert and worthless. The child then suffers on, unless the case be laid under the mastery of an infallible opiate. Contrary to Dr. Mitchell's assertion, that "they never require this medicine either for health or comfort," the truth is painfully summed up in the innocent creature's bitter cries, which if not relieved, will cry for hours, or

for a whole night. None will say, but that in this state it is a long way removed from a state of comfort, and a remedy is demanded. Opium will as certainly bring relief as that it is given. Here, then, by the failure of other means, the nature of the case decides in selecting this drug.

Out of a hundred cases that might be given, let me detail one, of a kind not the most common. Some two years ago, I found myself, by accident, in company with an infant eight or ten months old, which was irritable, peevish, and cried to excess. Every trifling displeasure or cross was a large provocation to cry. It would cry at night to the great detriment of its mother's repose. The child was thin and pale, but had no other appreciable error of health. Believing it was unwell, and the crying a symptom of its distress, I proposed to repair its fretful disposition by the agency of medicine. Six doses of morphia were left, one to be taken every night or two, as the case required. It was about two weeks in consuming the remedy. It improved from the ingestion of the first dose; and then got better, got fat and good natured. The mother afterwards expressed her regret that she did not obtain the medicine at an earlier period.

Dr. Mitchell says, secondly, (of opium in infancy,) "it is truly a poison to their tender tissues." To entitle this remark to acceptance, it should be accompanied with a reasonable sum of proof. It is equally dictatorial with the preceding one already discussed; similarly extravagant, and betrays a more startling disregard of the present state of toxicological knowledge. If Christison and other writers on poisons are to be believed, opium is *not a tissue poison*. Arsenic, corrosive sublimate, and the mineral acids, are, to use his expression, tissue poisons; they destroy the integrity of the texture of a part; while opium, strychnia, and hydrocyanic acid, are cerebro-spinants, or poisons which abolish the functions of an organ, but they meddle not with the mechanism of the tissues. "In poisoning by acrid substances," says Pereira, "opium is used with advantage to lessen the susceptibility of the alimentary canal, and thereby diminish the violence of these local irritants." There is palliation for such hap-hazard usage of language as that

employed by Dr. Mitchell in the inexperienced extempore speaker, but to find it in the text of the undisturbed deliberations of a writer, deters forgiveness, and entitles them to the disdain of ascetic censure.

A convenient and safe rule for the administration of opium to infants under a year old, is to give a drop of officinal laudanum for every month in the child's age. But elixir paragoric is the better, and the generally sufficient preparation for the first few weeks of the child's existence, should an opiate be needed.

The large doses of opium employed by Dr. Henry, did not bring with them the corresponding increase of evil effect of the drug. The consequent constipation of the bowels and nausea were in no degree augmented above those effects from ordinary doses. While a state of morbid action furnishes an occasion, or a reason, why such large portions are borne with advantage, yet it does not follow that they would prove poisonous in a state of health, excepting in extremely rare cases, wherein there is an idiosyncracy against it. For adults the poisonous dose does not appear to be reached much short of twenty grains. A few may be poisoned with a less dose, but many will escape the toxic influence of a much larger quantity. "A woman desired to get rid of a useless husband laboring under a disease regarded as incurable. She gave him twenty grains of opium at a dose, yet was most grievously disappointed. A drenching perspiration came on, followed by a profuse urinary evacution, and he was cured."

The *Annals de Hygiene*, for Jan., for 1845, furnish a more remarkable case. "An apothecary's assistant, aged twenty-four years, swallowed at noon fifty-five grains of acetate of morphia in two ounces of gum water. He then sent a letter to his master, informing him what he had done. The master came half an hour after, and administered, with difficulty, and without effect, two grains of tartar emetic, followed by an ounce or two of sweet oil. Up to this time the chief symptoms were slight giddiness, which soon vanished, and the lad went out with some companions and drank half a bottle of beer. At the end of an hour and a half he complained of

more giddiness, a peculiar feeling of the limbs, and a tendency to sleep. At the end of two hours he was taken to the hospital, put to bed, and made to take three grains of tartar emetic and twenty-four of ipecacuanha, in two doses, with an interval of half an hour. Vomiting could not be affected without the aid of an irritant to tickle the throat, and then it was too slight to do good.

The aspect of the case grew more alarming, till at length he fell into a profound sleep, and seemed like a drunken man. During all this the breathing continued quite natural. A pound of blood was taken from the arm, soon after which he rallied a little, and complained of a difficulty of swallowing. The pulse, which up to this time, was soft and frequent, became more full, hard and slow, and there was troublesome itching of the forehead, nose and lips. Various external irritants, and agitation of the whole body were resorted to in vain. The face was distorted, the eyes dull and sunken, the entire surface of the body of an icy coldness. At the end of three hours iodine and iodide of potash were administered, and vomiting ensued. Strong coffee frequently given, had a like effect. At the end of five hours, a third bleeding was performed, strong coffee pretty freely taken, and two blisters applied to the chest. From this time he began to improve, and converse a little. At the end of six hours he inquired whether he was not very ill, and wondered that he had survived the monstrous dose of fifty-five grains of acetate of morphia. In two or three days he was well."

The following recent case is worthy of note, and of quotation: Dr. Hays related to the college the particulars of a case in which a child, not quite six years old, was given a powder containing seven and a half grains of opium, with the same quantity of prepared chalk, the former having been substituted by mistake for rhubarb. Dr. H. did not see the patient until fourteen hours after the powder had been administered. He was told that the child, after taking the medicine seemed much excited; this was followed by restlessness and drowsiness, which continued at the time of Dr. H's visit. No vomiting had taken place. The narcotism was at no time very

profound. It gradually wore off, and at the end of three days had entirely disappeared.—*Amer. Jour. Med. Sci., April*, 1859.

In comparing the powers of opium with morphine, they are usually stated to stand as 1 to 4, or that a grain of morphia has four times the strength of one grain of opium. I am led to question this position. In the absence of positive data by which to determine, I can only offer an opinion. Aside from this rule, if asked my judgment, drawn from daily observation of the two articles, I should say they stood as 1 to 2. This view is sustained by the statement of the opium eater, mentioned in the foregoing pages. He says: "I always reached the full amount which as a habit I ever used, that is either half an ounce of opium, or a quarter of an ounce of morphine per week."

Before leaving the posology of our subject, it is in order to discuss the incompatibility of opium with other drugs.

Opium and quinine are many times in western practice, mingled together in a case, and in the same prescription, or even in the same dose; and that, too, without any fear of perverting antagonism. Recently, however, an article in an Eastern journal, states what the writer regards as an incompatibility between these agents. Looking into the phenomenon of natural sleep, he found the cerebral vessels always in a state of congestion; that opium induces sleep by bringing about this same state of congested cerebral vessels. Opium, then, induces sleep by an action which is but the imitation of nature—a natural sleep by artificial means. Quinine, on the other hand, induces the opposite state of the cerebral vessels. A plethora of them, according to this writer, is removed. It therefore, like coffee, diminishes the tendency to sleep. Admitting the statement to establish this incongruity of operation, that quinine does arrest the soporific effect of opium, the fact is void of objection, though they be given in conjunction for the purposes of anodyne, alternative, or sedative effects.

Question? In view of this conflicting action, may we not glean from it a useful gem of practice? Instead of its being wholly an obtrusive feature in the premises, may it not prove of eminent service? Why will not the addition of quinine to

an opiate, diminish the dangers of that opiate, when given to infants, lessen our trepidation of employing it, and thus extend its usefulness in that class of subjects, by antidoting one of the dreaded properties of the drug, viz: the tendency to stupor.

Among the recent movements in the progress of medical practice, the heroic plan of administering opium in *puerperal fever* is the most decisive. Dr. Barker, of New York, speaks of it in terms of high commendation. He regards this fever as differing from most other inflammations—as being a zymotic disease, and which bears a kindred identity with erysipelas. That, like erysipelas, it often springs from contagion, and that prophylactic measures secure to the patient much safety, which peculiarity widely separates it from a simple inflammation. He does not look upon opium as *the* remedy in this disease, nor does he employ it because the patient has puerperal fever, but because there is in this terrible plague a clear indication for its use, which indication is rarely absent. He says: An important indication in the treatment of this disease is to control vascular excitement and nervous irritation. As an arterial sedative, well adapted to reduce the excitement of the vascular system, inasmuch as it does not depress the vital powers, Dr. B. recommends the veratrum viride. To allay nervous irritation he is in favor of large and repeated doses of opium.

It is astonishing to see to what an extent patients will tolerate opium, where the peritoneal lesion predominates. When opium is acting benficially in such cases, there will be a reduction of the frequency of the respiration, and also of the pulse. If opium is pushed to the point of incipient narcotism, and the respirations grow slower without a corresponding decrease of the pulse, the remedy is not acting beneficially, and should at once be abandoned. Illustrative of an occasional necessity there is to reduce the pulse, while you at the same time continue the effect of the opiate, he relates the following: "The patient had been freely impressed with opium, which had reduced the number of respirations to a low standard, while the pulse continued elevated to the pitch of 120 or 130. This disproportion in two vital movements began to indicate

a cyanosis of blood, and depict a livid countenance. In place of the opiate, veratrum was given which lessened the cardiac to a normal correspondence with the respiratory movement. The dusky features disappeared, and the patient recovered."

In the decline of an epidemic in England, Dr. Ferguson began to rely upon ten grain doses of Dover's powder in the outset of this disease, or whenever a parturient female began to complain of a pain in the abdomen. It removed the suffering, and with a few exceptions, arrested the disease. Permit the report of a single case observed lately. Mrs. K., two months advanced in gestation, had free uterine hemorrhage for a day or two, from supposed mechanical injury of the organ. On the mornings of Tuesday, Wednesday and Thursday, she had vigorous chills, followed each day with a smart fever. Visiting her Thursday at 3 P. M., she was found with an ardent heat of skin, thirst, nausea, and vomiting, painful and tender abdomen, head-ache, and a pulse of 150 per minute. Twenty grains of camphorated Dover's powder, containing about six grains of opium, were immediately given. She continued to retch in efforts to vomit for three hours, when three doses of veratrum were given, hourly, with relief to the stomach. The next morning the patient was found sitting up, free from fever, free from every distress, and from tenderness of the bowels, with a pulse beating at 100. A few more doses of veratrum and opium completed her recovery.

Regarding the publication of Dr. Henry's views, as adding the property of affluence to our knowledge of opium, and feeling a faltering perplexity with the usual bootless, and even contradictory lines of treatment laid down for *dysentery*, I began eight years ago to employ opium in this disease.

From its diligent efficiency sprung a ripening satisfaction, which gave a proneness to rely upon it, with only such varying interruptions as special indications might require. Generally five or six grain doses of this drug, in the form of camphorated Dover's powder—the camphor being substituted in place of the ipecacuanha—were given in the outset every night, or every night and morning. This at once subdued many and many a case which, under other plans of treatment must have painfully

continued for many days, or many weeks. Twenty-four hours to four days, is the ordinary range of duration of dysentery thus treated. Whereas hundreds of accomplished practitioners will testify to a frequent and troublesome duration of two to four weeks, under the usual methods of treatment.

Neither Dr. Henry nor any other writer within my knowledge, had led the way, or authorized us to address dysentery solely by the ruling powers of opium. But though without the prestige of precedent, the course was legitimately deducible from known truths, and from Dr. Henry's premises. Favoring results alone encouraged my course of managing this disease, until July, 1857, the *Amer. Journal Med. Sciences* praised it in authoritative terms. After reviewing Dr. Tiedimann's plan of treating dysentery, who proposed twenty grain doses of nitrate of potassium, given three or four times a day; the reviewer says: "We cannot agree with Dr. T. in his denunciation of opium as positively mischievous in the early stages of dysentery. We are in the constant habit of giving it from the very onset of the disease, and always with the very best effect. To derive from it the good it is calculated to produce in this disease, it must, however, be given in large doses. The effect of small and repeated doses is rather mischievous than beneficial. Although we have generally found sporadic dysentery a troublesome and obstinate, rather than a fatal disease, we certainly have not been quite so successful in its treatment as Dr. T. In few cases, occurring in very young, or in diseased or broken down constitutions, the disease has terminated fatally. We very much doubt whether in these cases the termination would have been different had we subjected them to the treatment laid down in the essay of Dr. Tiedimann.

In pledging the far-reaching œsculapian hand of opium, to save both time and life, within a reasonable certainty, in this malady, we do not lose sight of the kind of cases to be met with. It is not forgotten that dysentery, like croup and rheumatism, presents two different grades. The one associated with febrile or inflammatory features, the other being without fever. But instead of letting the distinction likewise divide our treatment, we follow the plan adopted by Dr. Jenner Coxe,

of New Orleans, respecting the treatment of croup, namely, group the different varieties in one, and apply the same remedial measures, only with such variations as the special aspect of each case may demand. In a mere, yet imperative, action of the bowels, with tenesmus, scanty, and muco-sanguineous evacuations, one or two full doses of opium will command relief. Add to this derangement a fever, thirst, heat of abdomen, and an antecedent chill, and you have the other variety of dysentery; which is still answerable to a larger number, and larger sized doses of the agent. Veratrum viride and local fomentations will add to our resources, but it is rare that recovery is a contingent of them.

Nor is it to be supposed that opium can be confided in when the diseased action has gained that destructive advance known as the ulcerative stage. Even here it cannot be prudently dispensed with, but its value is subordinate to other remedies. While it will quiet the vermicular action of the bowels, lessen the determination of blood to the pelvic viscera, sooth the wincing tenesmus kept up by the rough surface of eroded texture; local appliances, such as injections of nitrate of silver, and its kindred, must take priority. Neither in epidemic dysentery can the favorable results of opium be promised with as much hope, or trusted in, so exclusively. But if called in season to a sporadic case of dysentery, the alpha of the curative plan is, not a purgative, nor an emetic, nor calomel, but an arbitrary portion of opium, from the extrotic effect of which, there is plethoric reason to believe, the mischief will be arrested, and the subsequent stages of the malady will be anticipated.

Thus we have written of this herculean therapium. We have contemplated the principal spheres embraced in its mission and interrogated the scope of its powers. Our studies have evolved, in the foregoing essay, now, and not yet admitted points which may be in numerical order, re-stated as follows:

1. Contrary to the authority of Pareira, opium allays both normal and abnormal salacity.

2. It delectably exilerates the mental faculties of only about one half who take it.

3. Of opium eaters and those requiring to resort to it; it does not always require of them to increase the amount, in order to obtain the same result.

4. Those habituated to the use of tobacco, are generally freed from the secondary effect of nausea.

5. The relative power of morphia to opium, by weight, is believed to stand as 1 to 2; instead of as 1 to 4. Which is, that two grains of opium equals one grain of morphine.

6. Opium and quinine are in some respects incompatible with each other, which property may be usefully employed as antagonistic to stupor when prescribed for infants.

7. Without becoming intoxicated with this drug, and short of being proved guilty of adulation, we say, opium stands a head and shoulders above any other remedy, or other treatment in dysentery.

ARTICLE 6.

MUTILATION OF A CHILD BY A MIDWIFE.

BY H. CARPENTER, M. D.

I was called on Saturday morning, April the 9th, to see Mrs. L., aged 27, who I found sitting upon a chair in a leaning position, complaining of excrutiating pain in the right Iliac region, and unable to lie down. Tongue coated in the middle and very red at edges and tip. Pulse ninety. Skin dry and hot. Bowels constipated. Urine deficient and very red.—Pregnant with first child and in her eighth month of gestation. The assigned cause of her illness was walking three miles on the previous day. However, upon further examination, I elicited the following facts: After she was taken with slight pain sent for a midwife who came and gave her Tartar emetic, which acted promptly and very violent. Also gave her other medicines, but could not ascertain what. Then she requested an examinetion per vaginum which was agreed to. However before proceeding, she steamed her over a bucket of hot water, after which she introduced her hand into vagina, and during

the manipulations she created severe pain, which continued until next morning, consequently became alarmed and sent for me at once. After ascertaining the above particulars, I directed my treatment to arrest premature labor; correct the secretions and allay the increased action of the heart, for which I gave a large dose of Morphia with Hyd. cum creta. This relieved her so much that she was able to lie down. I then prepared three more powders of the same, directing her to take one every two hours alternately with half teaspoonful of the veratrum mixture, which consists of

Spir. Æther Nit. one drachm.
Tr. Opii. Camph.
Tr. Veratrum Viaieb aa. two drachms.

until she became easy, after which take castor oil. On the 10th her husband came to see me, stated that his wife took the oil after taking two powders—it operated twice—rested well during the night. I gave him several morphia powders to be given as occasion required, requesting him to inform me at once if the pains assumed the character of labor pain.

Friday evening, the 15th, I was called in haste, and on arriving was informed that the child's head had been born about half an hour, and pains very inactive; I consequently inferred the child was dead. I introduced my right index finger into the vagina, hooking it under the arm of the child, and made slight traction, which caused its expulsion. I applied cold water to the thoracic regions for the purpose of producing respiratory movement, which had the desired effect, at least caused it to gasp. Then I removed it a convenient distance from its mother in order that I might try artificial respiration; however discovered that the cord had been severed and bowels protruding, which cut off all hope of the child's recovery. After laying it one side, I endeavored to excite a pain that might expel the placenta, but did not succeed. I introduced my hand and grasped the placenta which came away very readily, but found it badly lacerated. After devoting sufficient time to the comfort of the mother, I commenced an examination of the child, which was in the following condition. Head natural, except badly bruised. Abdomen was lacerated from

points corresponding with the crest of Ilium; interior portion of the parietes was pressed into the pelvis, and all the viscera below the diaphragm were lying external to abdomen. Left hip joint was dislocated—head of the femur was thrown upwards on the dorsum ilia; funis was severed about six inches from the body, and had the appearance of having been torn some time, as there was no oozing of blood. During all of this time the action of the heart was perceptible.

I learned from the lady after her recovery, that when the midwife made an examination, she found the head presenting, which she said was a condition attended with a great degree of danger to the mother. After manipulating sometime, she said it was all right and the child would be born soon. However, after awaiting sometime, again endeavored to bring on labor, which explained the whole mystery to me. It is very evident that the woman attempted turning and completely murdered the child. But how is it possible for a child to live in utero one week after having the cord severed? It was not possible for the pains to have severed it, as they were very inactive during the entire process of labor.

[In reply to the question "how is it possible for a child to live in utero one week after having the cord severed?" there can be but one answer, and that is, its utter impossibity. In this case the cord was, without doubt, ruptured, as occasionally happens near the termination of labor, at which time it is liable to be put upon the stretch. The case only illustrates the danger of submitting the parturient process to the direction of ignorant persons, for though even when thus obstructed, nature is usually competent to terminate the labor successfully; yet cases every day occur where the life of the child or the mother, or both, is sacrificed to this too prevalent custom. —*Eds.*]

Lunatics in New York City.—In the want of any reliable census of lunatics in the city or state of New York, Dr. Ranney makes the accurate census returns of Massachusetts, in 1854, the basis of an approximative estimate, and concludes that there must be about 2000 lunatics at this time in New York city.

ARTICLE 7.

NEEDLE FOR WIRE SUTURE.

BY R. J. LEVIS, M. D.,

Surgeon to the Philadelphia Hospital.

The present general use of the metallic suture in surgery, will make acceptable a form of needle adapted to its peculiarities, and which, by facilitating its introduction through the tissues, will add to its convenience and efficiency.

For the free passage of the needle and wire, it is essential, first, that the wire be securely held; second, that it present, at its connection with the needle, no impediment to the transit through the tissues; third, that it should follow the needle in a direct line, not allowing an angle to form at the junction which will require traction to overcome. It is also important for the convenience of the operator, that the needle should be readily threaded.

In using the ordinary surgical needle for the purpose, even though the needle be deeply grooved at the eye for its lodgment, the wire forms a ring-like attachment with the needle, which impedes its passage. A sort of hinge joint is also formed at the junction, which will be movable, no matter how tightly the wire be twisted, and there will be continually forming an angle with the needle, which is a great impediment to its use in delicate tissues, and in regions difficult of access, as the vagina, rectum, and fauces. Another inconvenience which has occurred with me in the use of the ordinary needle and the silver wire, is the liability of the wire to be pinched off by the forceps necessary to its introduction in the above localities.

These objections have induced some surgeons to introduce the wire by first passing the ordinary silk thread to which the wire is attached, and then drawn through.

For the purpose of overcoming these inconveniences in the ordinary use of the wire suture, I have devised a modification of the needle, which is so well illustrated by the accompany-

ing proportionally collossal representations, as to render description almost unnecessary.

Its peculiarity is in what is usually the eye of a needle, though this is really without an eye, the attachment of the wire being accomplished by grooves in which it rests.

A groove deep enough for the lodgment of the wire, encircles the needle obliquely near its extremity, and leads into another groove which is vertical. The vertical groove is just wide enough at its entrance to admit the introduction of one wire at a time, but the inside of the groove being large enough to accommodate two wires, when both are introduced and twisted together, they are securely held. An attachment is thus effected which is as firm as if the needle and wire formed one continuous piece, and the wire being entirely encased within the grooves, it will traverse any tissue of the body without the least impediment.

There is a decided advantage in having the wire double for an inch or more following the needle, as any break in the wire invariably occurs very near to the needle.

This form of needle has been so extensively used in this city, as to thoroughly test its efficiency, and it has been preferred by the instrument makers, on account of its simplicity and the facility and cheapness with which it can be made.

Such needles, of sizes adapted to all uses, may be had from Mr. Gemrig, of Eighth street, or Mr. Kolbe, of Ninth street, in this city.—*Hospital Reporter.*

Mercurial Stomatites.—Geo. T. Barker, D. D. S., in the *Dental Cosmos*, observes: "My mode of treating mercurial sore mouth comprises the systemic and local; for the first I can highly recommend the potassac chloras of the pharmacopœia; for the latter, freely scarify the gums, painting them, after each operation, with iodine."

Editorial.

SOUTHERN STUDENTS LEAVING THE MEDICAL SCHOOLS OF PHILADELPHIA.

We have learned through the newspapers that over three hundred medical students from the southern states, recently left Philadelphia in a body for Richmond, and other southern cities.

If this movement is to be regarded as the result of political causes, it is to be regretted. If, on the contrary, it was the result of a returning sense of the mistake the young gentlemen committed in passing by the schools of their own states, especially for those of Pennsylvania, we cannot but commend their good judgment.

The Medical Schools of the southern cities suffer nothing in comparison with any in this or foreign countries.

Their professors are learned and eloquent; the facilities for clinical teaching, are in some of the large cities, ample. Why then, should they not be supported by southern students?

We do not in any way intend to disparage the advantages of Philadelphia as a seat of medical learning. Her character is too well established to require endorsement or fear depreciation, but we have long believed that a more equal distribution of students among such medical schools of the country as possess facilities for clinical instruction instead of gathering five hundred on the seats of a single lecture room, would be for the advantage of all concerned, and we hope that hereafter the medical students of the West will not be behind those of the South in their attachment to the institutions of their own particular sections; institutions which, if they are not already fully equal to any others, only require the patronage to which they are legitimately entitled to render them so.

TO THE MEDICAL PROFESSION.

At the Annual Meeting of the *Illinois State Medical Society*, held at Decatur on the first Tuesday in June last, the undersigned was appointed a special committee on the Medical uses of *Veratrum viride.*

Being desirous of gaining all the information within reach, bearing upon the subject, so as to make as full and satisfactory a report as possible, I take the liberty of addressing you the following questions, and respectfully solicit an early answer.

1. Have you made use of *veratrum viride* in your practice? If you have:
2. In what form do you use it; (if the tincture; whose preparation?) and in what dose?
3. What are its effects?
4. In your opinion, what is its *modus operandi?*
5. What value do you attach to it as a remedial agent?
6. In what diseases have you found it most useful?

Give any other information upon the subject you may possess, and address A. HARD, M. D., Aurora, Kane County, Ill., as early as the first of March, 1860.

Yours, &c.,

Aurora, Ill., Nov. 28, 1859. A. HARD.

SURGICAL NOTES.

1. DISLOCTION OF THE FEMUR OF THIRTY-NINE DAYS' STANDING, REDUCED BY MANIPULATION.—The patient in this case was one of the wounded at the accident on the Chicago and North-Western Railway. The nature of the accident seems to have been misapprehended, and it had been treated as a fracture. The reduction by manipulation after this length of time presents many difficulties arising from the necessity of breaking up adhesions, and from the opening in the capsular ligament through which the head of the femur escapes from the socket being closed. By care and perseverance this was overcome, and the reduction effected. This is the third case already reported in these notes within a

few weeks, in which this form of dislocation had been reduced. In only one was this effected by simply following the directions of Ried. In the other two, different movements were required to replace the bone in the acetabulum.

Much less pain and inflammation resulted from the efforts at reduction than would be expected after such a length of time, and ten days after the reduction, I learned that he was doing well, free from pain, with the member in the natural position.

2. Dislocation of the Hit into the Thyroid Foramen —Reduction by the Method of the Author.—On the 22d of December, 1859, we were called to a robust young man, upon whom part of a load of coal had fallen. The signs of dislocation into the Thyroid Foremer were very apparent, and the accident had occurred only an hour before. The reduction was effected in the following manner:

1. The patient was placed fully under the influence of chloroform. 2. A piece of wood, three and a half inches in diameter, surrounded by a pillow, was pressed against the perineum. 3. The members were used as levers, by seizing by the hands, at the ankles, and carrying them toward each other. During its reduction, the patient lay with his hips on the edge of the bed, the members extending over it. The knees were not flexed. The reduction was effected in ten seconds after force was applied, with ease.

This is the fourth case in which we have reduced this form of dislocation of the hip, by the hands alone. In none has any bad effect resulted. Three of these cases were noticed in the number of this Journal for Oct., 1859, but as the method is new, and the subject important, it is believed that each additional case will be of interest.

3. Silver Sutures.—On the 17th Dec. last, we had occasion to excise an extension cicatrix, the result of a burn on the popliteal region. The loss of substance was so extensive as to require moderate traction to fetch the edges of the wound together. In order to test the comparative value of sutures of silver wire and of thread, a part of the wound was dressed with the former, and a part with the latter. On the second

day, nearly all the wires had cut through, notwithstanding strips of adhesive plaster were applied when separation of the edges was perceived. The thread, on the contrary, retained the edges well in contact to the fifth day.

This result was owing, no doubt, to the fineness of the wire used, which passes upon a smaller surface than that with which the thread comes in contact. We infer that if metalic sutures are to be used, for which, in general, no good reason appears as yet, those of lead or silver, made broad, should be preferred.

We have also recently used the silver wire on a stump, after amputation of the arm, at the City Hospital. The result was, however, in no respect different from that where thread is used.

4. Treatment of Indolent Ulcers by Vapor of Iodine. During the last three years nearly all the cases of indolent ulcers entered under our care to the U. S. Marine Hospital, have been treated by the vapor of iodine. The result is very satisfactory in nearly all cases; more so, by far, than that obtained by any other single method. Its advantages are conceived to be these:

1. Cleanliness and facility of application.
2. Rapidity of cicatrization.
3. Destruction of the odor of the ulcer. Iodine acts as a disinfectant, like chlorine.

The manner of using it is as follows:

1. Dress the ulcer with simple cerate, spread on lint.
2. Take from one to four grains of iodine, according to the size and degree of indolence of the ulcer, folded in several layers of lint, and place it on the ulcer, over the first layer.
3. Cover this with a piece of oiled silk and tin foil, which should be large enough to extend beyond the edges of the ulcer. This is to prevent rapid vaporization, and it should be secured by a roller.

The warmth of the member speedily vaporizes the iodine, and a sensation of warmth is perceived by the patient on the ulcerated surface. If applied in too large quantity, or too directly on the surface, the Iodine acts as an escharotic. Care is therefore required in this respect.